

IN THE CLAIMS

Please cancel pending claims 1-46 and add claims 47-100 as follows:

47. (New) A bone plating system for improving the stability of a bone fracture in a long bone comprising:

a bone plate having:

an upper surface;

a lower surface;

a shaft portion having a width, the shaft portion configured and dimensioned to extend along at least a portion of a diaphysis of the bone; and

a head portion that flares outward from the shaft portion so as to have a width that is greater than the width of the shaft portion, the head portion curving upward from the shaft portion and having at least three bone anchor holes, the bone anchor holes being conically tapered from the upper surface to the lower surface, the at least three bone anchor holes having at least a portion that has a thread to engage a thread on a head of a bone anchor,

wherein the head portion has only bone anchor holes having the threaded portion, the shaft portion having a plurality of holes having at least a portion that has a thread to contact the thread on the head of a bone anchor.

48. (New) The bone plating system of claim 47, wherein the shaft portion has a central longitudinal axis and the threaded holes in the shaft portion are offset from the central longitudinal axis of the shaft portion.

49. (New) The bone plating system of claim 48, wherein the threaded holes in the shaft portion alternate sides from the central longitudinal axis of the shaft, such that the holes in the shaft portion form a staggered arrangement.

50. (New) The bone plating system of claim 47, wherein there are at least five holes in the shaft portion.

51. (New) The bone plating system of claim 47, wherein at least two of the holes in the head portion have diameters different from each other.

52. (New) The bone plating system of claim 47, wherein the internal surface of at least one of the holes in the shaft portion has at least a portion which is smooth.

53. (New) The bone plating system of claim 52, wherein the smooth portion of the threaded hole is at the upper portion of the hole.

54. (New) The bone plating system of claim 53, wherein the smooth upper portion of the hole tapers inward in a direction from the upper surface of the plate to the lower surface of the plate.

55. (New) The bone plating system of claim 47, wherein at least a portion of the head portion is thinner than at least a portion of the shaft portion.

56. (New) The bone plating system of claim 47, wherein the head portion lies in a plane different from the plane in which the shaft portion lies.

57. (New) The bone plating system of claim 47, wherein the shaft portion of the bone plate has a thinner cross section in regions between the plate holes.

58. (New) The bone plating system of claim 57, wherein the shaft portion of the bone plate has a trapezoidal shaped cross section in regions between the plate holes for minimizing contact between the bone and the lower surface.

59. (New) The bone plating system of claim 47, wherein the lower surface of the shaft portion of the bone plate is curved along a direction transverse to the longitudinal axis of the shaft portion.

60. (New) The bone plating system of claim 47, wherein the lower surface of the shaft portion has a plurality of arched cut-outs extending transverse to the longitudinal axis of the shaft portion.

61. (New) The bone plating system of claim 59, wherein the lower surface of the shaft portion has a plurality of arched cut-outs extending transverse to the longitudinal axis of the shaft portion.

62. (New) The bone plating system of claim 47, wherein the bone plate includes at least one hole for anchoring or for provisional fixation of the bone plate.

63. (New) The bone plating system of claim 62, wherein the hole is a suture hole.

64. (New) The bone plating system of claim 47, wherein the threaded portion of each bone-anchor hole has a multiple-lead thread.

65. (New) The bone plating system of claim 47, wherein the long bone is the tibia.

66. (New) The bone plating system of claim 47, wherein the long bone is the femur.

67. (New) The bone plating system of claim 47, wherein the head portion is curved in at least two planes.

68. (New) The bone plating system of claim 47, wherein the bone plate has a portion that is curved.

69. (New) The bone plating system of claim 47, wherein the holes have a diameter between approximately 5mm and approximately 7mm.

70. (New) The bone plating system of claim 47, wherein the holes in the head portion are arranged and positioned so that the inserted anchors converge towards each other.

71. (New) The bone plating system of claim 73, wherein at least one of the holes in the head portion has a non-perpendicular angular orientation with respect to the plane defined by the upper surface of the plate.

72. (New) The bone plating system of claim 71, wherein the hole angle is between approximately 0° and approximately 15°.

73. (New) A bone plating system for improving the stability of a bone fracture in a long bone comprising:

a bone plate having:

an upper surface;

a lower surface;

a shaft portion configured and dimensioned to extend along at least a length of a diaphysis of the bone; and

a head portion having a width that is greater than the width of the shaft portion and which curves upward from the shaft portion, the head portion having a plurality of conically tapered holes having at least a portion that has a thread to contact a bone anchor, wherein the shaft portion has a plurality of conically tapered holes having at least a portion that has a thread to contact a thread on the head of a bone anchor, and

the shaft portion of the bone plate has a thinner cross section in regions between the plate holes.

74. (New) The bone plating system of claim 73, wherein the shaft portion has a central longitudinal axis and the conically tapered holes in the shaft portion are offset from the central longitudinal axis of the shaft portion.

75. (New) The bone plating system of claim 74, wherein the conically tapered holes in the shaft portion alternate sides from the central longitudinal axis of the shaft, such that the holes in the shaft portion form a staggered arrangement.

76. (New) The bone plating system of claim 74, wherein the shaft portion further comprises a plurality of holes without threads.

77. (New) The bone plating system of claim 73, wherein there are at least three holes in the head portion.

78. (New) The bone plating system of claim 73, wherein there are at least five holes in the shaft portion.

79. (New) The bone plating system of claim 73, wherein all of the holes located in the head portion for receiving bone anchors have at least a portion that is threaded.

80. (New) The bone plating system of claim 73, wherein at least two of the holes in the head portion have diameters different from each other.

81. (New) The bone plating system of claim 73, wherein the internal surface of at least one of the threaded holes in the shaft portion has at least a portion which is smooth.

82. (New) The bone plating system of claim 81, wherein the smooth portion of the threaded hole is at the upper portion of the hole.

83. (New) The bone plating system of claim 79, wherein the smooth upper portion of the hole tapers inward in a direction from the upper surface of the plate to the lower surface of the plate.

84. (New) The bone plating system of claim 73, wherein at least a portion of the head portion is thinner than at least a portion of the shaft portion.

85. (New) The bone plating system of claim 73, wherein the head portion lies in a plane different from the plane in which the shaft portion lies.

86. (New) The bone plating system of claim 73, wherein the shaft portion of the bone plate has a trapezoidal shaped cross section in regions between the plate holes for minimizing contact between bone and the lower surface.

87. (New) The bone plating system of claim 73, wherein the lower surface of the shaft portion of the bone plate is curved along a direction transverse to the longitudinal axis of the shaft portion.

88. (New) The bone plating system of claim 73, wherein the lower surface of the shaft portion has a plurality of arched cut-outs extending transverse to the longitudinal axis of the shaft portion.

89. (New) The bone plating system of claim 87, wherein the lower surface of the shaft portion has a plurality of arched cut-outs extending transverse to the longitudinal axis of the shaft portion.

90. (New) The bone plating system of claim 73, wherein the bone plate includes at least one hole for provisional fixation of the bone plate.

91. (New) The bone plating system of claim 90, wherein the hole is a suture hole.

92. (New) The bone plating system of claim 73, wherein the threaded portion has a multiple-lead thread.

93. (New) The bone plating system of claim 73, wherein the long bone is the tibia.

94. (New) The bone plating system of claim 73, wherein the long bone is the femur.

95. (New) The bone plating system of claim 73, wherein the head portion is curved in at least two planes.

96. (New) The bone plating system of claim 73, wherein the bone plate has a portion that is curved.

97. (New) The bone plating system of claim 73, wherein the holes have a diameter between approximately 5mm and approximately 7mm.

98. (New) The bone plating system of claim 73, wherein the holes in the head portion are arranged and positioned so that the inserted anchors converge towards each other.

99. (New) The bone plating system of claim 98, wherein at least one of the holes in the head portion has a non-perpendicular angular orientation with respect to the plane defined by the upper surface of the plate.

100. (New) The bone plating system of claim 99, wherein the hole angle is between approximately 0° and approximately 15°.